Claims

What is claimed is:

1. A method for comparing a pixel against one or more windows using a pipeline, the method comprising:

passing said pixel through the pipeline, wherein said pipeline comprises two or more pipeline segments;

computing window result in each one of said two or more pipeline segments, wherein each one of said two or more pipeline segments corresponds to one of said one or more windows, wherein said window result comprises an indication of inclusion of said pixel within the corresponding one of said one or more windows;

outputting a window word from each one of said two or more pipeline segments, wherein said outputting said window word comprises, for each of said two or more pipeline segments except for a last pipeline segment, passing said window word to next pipeline segment, wherein said window word comprises said window result and previous window result; and

examining said window word available in the last pipeline segment.

2. The method of claim 1,

wherein said pixel comprises a horizontal and a vertical coordinate that define position of said pixel on a screen.

3. The method of claim 2,

wherein each of said one or more windows comprises a first horizontal and a second horizontal coordinate and a first vertical and a second vertical coordinate that define boundaries of each of said one or more windows on the screen.

4. The method of claim 1, wherein said computing window result comprises:

computing horizontal inclusion by computing if said horizontal pixel coordinate is located between the first horizontal and the second horizontal coordinate of each of said one or more windows; and

computing vertical inclusion if said vertical pixel coordinate is located between the first vertical and the second vertical coordinate of each of said one or more windows.

5. The method of claim 4, wherein said computing window result further comprises:

setting said indication of inclusion of said pixel to positive if both said horizontal and vertical inclusions are true, and setting said indication of inclusion of said pixel negative if one or more of said horizontal and vertical inclusions are false.

6. The method of claim 1,

wherein said previous window result comprises one or more previous window results.

7. The method of claim 1, further comprising:

clipping said pixel after said examining determines that said pixel is not included in any of said one or more windows;

propagating said pixel after said examining determines that said pixel is included in at least one of said one or more windows;

wherein said one or more windows comprise one or more 2-D windows.

8. A method comprising:

supplying window boundary coordinates for a plurality of windows to a computational pipeline, wherein each segment of the computational pipeline corresponds to one of said windows;

each stage, except for a last segment, of the computation pipeline determining if a corresponding pixel is included in the corresponding window, and passing the corresponding pixel and a result of said inclusion determination to a next segment of the computational pipeline.

9. The method of claim 1,

wherein said corresponding pixel comprises a horizontal and a vertical coordinate that define position of said pixel on a screen.

10. The method of claim 9,

wherein each of said plurality of windows comprises a first horizontal and a second horizontal coordinate and a first vertical and a second vertical coordinate that define boundaries of each of said plurality of windows on the screen.

11. The method of claim 10, wherein said determining comprises:

computing horizontal inclusion by computing if said horizontal pixel coordinate is located between the first horizontal and the second horizontal coordinate of each of said plurality of windows; and

computing vertical inclusion if said vertical pixel coordinate is located between the first vertical and the second vertical coordinate of each of said plurality of windows.

12. The method of claim 11, wherein said computing window result further comprises:

setting said indication of inclusion of said pixel to positive if both said horizontal and vertical inclusions are true, and setting said indication of inclusion of said pixel negative if one or more of said horizontal and vertical inclusions are false.

13. The method of claim 8,

wherein said result comprises one or more previous results.

14. The method of claim 8, further comprising:

clipping said corresponding pixel after said examining determines said corresponding pixel is not included in any of said plurality of windows;

propagating said corresponding pixel after said examining determines said corresponding pixel is included in at least one of said plurality of windows;

wherein said one or more windows comprise one or more 2-D windows.

15. A system for determining inclusion of a pixel with respect to each of one or more windows, wherein the pixel comprises a horizontal and a vertical coordinate, wherein each of said one or more windows comprises a first horizontal and a second horizontal coordinate and a first vertical and a second vertical coordinate that define boundaries of each of said one or more windows in a two-dimensional space, the system comprising:

a pipeline having two or more pipeline segments, wherein each one of said two or more pipeline segments corresponds to one of said one or more windows, wherein each one of said two or more pipeline segments, except for a last of said two or more pipeline segments, is configured to: (a) receive the horizontal and vertical coordinates of the pixel, (b) compute a window result indicating whether or not said pixel is located within said corresponding window, and (c) pass the horizontal and vertical coordinates of the pixel and the window result to a next one of said two or more pipeline segments.

16. The system of claim 15,

wherein said window result comprises one or more previous window results.

17. The system of claim 15, wherein said last of said two or more pipeline segments is configured to:

clip said pixel after said examining determines said pixel is not included in any of said one or more windows;

propagate said pixel after said examining determines said pixel is included in at least one of said one or more windows;

wherein said one or more windows comprise one or more 2-D windows.